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10/590,413	05/31/2007	Toshiharu Tsuchiya	450106-05459	8745

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EXAMINER	
WILLIAMS, JEFFERY A	

ART UNIT	PAPER NUMBER
2482	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/590,413	TSUCHIYA ET AL.	
	Examiner	Art Unit	
	JEFFERY WILLIAMS	2482	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-9 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim(s) 1-9 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to particular machine, or (2) transform underlying subject matter (such as an article or material) to a different state or thing. See page 10 of In Re Bilski 88 USPQ2d 1385. The instant claims are neither positively tied to a particular machine that accomplishes the claimed method steps nor transform underlying subject matter, and therefore do not qualify as a statutory process. The encoding method including steps of “determing” and “generating” is broad enough that the claim could be completely performed mentally, verbally or without a machine nor is any transformation apparent. For example “determining whether the block can be encoded in the encoding mode with alternative information including motion information of predetermined adjacent blocks of the block” could be performed mentally without the use of a machine or device.

Regarding claim 9, the claim lacks the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 U.S.C. 101. They are clearly not a series of steps or acts to be a process nor are they a combination of

chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material per se.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1-5 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by ITU-T H.263 series H: Audiovisual and Multimedia Systems.

Regarding **claims 1 and 9**, ITU-T H.263 series H: Audiovisual and Multimedia Systems discloses a picture information encoding method of performing an encoding process for picture information using a motion prediction, wherein the encoding process is performed for a block with at least one of moving vector information and coefficient information being omitted (pg. 110, para. 3) and the encoding process has an encoding mode in which the omitted information can be restored at a decoding side according to a predetermined rule (pg. 110, para. 3; “the decoder derives motion vector data”, pg. 113, section O.5.2), the method comprising the steps of:

determining whether the block can be encoded in the encoding mode with alternative information including motion information of predetermined adjacent blocks of the block (pg. 110, para. 3, pg. 113, section O.5.2); and

generating pseudo motion information instead of the unusable motion information and providing the pseudo motion information as the alternative information, when the motion information of at least one of the adjacent blocks is unusable (pg. 110, para. 3; “the decoder derives motion vector data”, pg. 113, section 0.5.2).

Regarding **claims 2 and 3**, ITU-T H.263 series H: Audiovisual and Multimedia Systems discloses the picture information encoding method as set forth in claim 1, wherein the pseudo motion information is usable motion information of a neighbor block of an adjacent block that has the unusable motion information (pg. 110, para. 3; “the decoder derives motion vector data”, pg. 113, section 0.5.2).

Regarding **claim 4**, ITU-T H.263 series H: Audiovisual and Multimedia Systems discloses the picture information encoding method as set forth in claim 1,

wherein the encoding mode includes a first mode in which the block is encoded with the moving vector information and the coefficient information being omitted (pg. 110, para. 3; “the Direct (skipped) prediction type indicates that neither MBTYPE, nor any data is transmitted in the macroblock...", and

wherein at the determining step and the pseudo computing step the moving vector information is treated as the motion information in the first mode (pg. 110, para. 3; “the decoder derives forward and backward motion vectors…”).

Regarding **claim 5**, ITU-T H.263 series H: Audiovisual and Multimedia Systems discloses the picture information encoding method as set forth in claim 1,

wherein the encoding mode includes a second mode in which when the block is encoded with the moving vector information being omitted (pg. 113, section O.5.2), and

wherein at the determination step and the pseudo computation step the moving vector information and the reference index information are treated as the motion information in the second mode (pg. 69-70, section G.4).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 6, 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over ITU-T H.263 series H: Audiovisual and Multimedia Systems in view of Joch et al. (hereinafter Joch) (US 7,400,681).

Regarding **claim 6**, ITU-T H.263 series H: Audiovisual and Multimedia Systems discloses the picture information encoding method as set forth in claim 2 (see claim 2 above).

ITU-T H.263 series H: Audiovisual and Multimedia Systems is silent about the block is encoded according to MPEG4/AVC standard, and wherein when the pseudo motion information does not match the motion information computed according to the MPEG4/AVC standard, at the determination step, the pseudo motion information is not used as the alternative information.

Joch from the same or similar field of endeavor discloses the block is encoded according to MPEG4/AVC standard (col. 9, lns. 60-62), and deriving motion vectors in

SKIP mode (col. 11, lns. 44-49) that obey the rules of predicting vectors in the h.264 (MPEG4/AVC) standard (FIGs. 5 and 6; col.4, lns. 32-54) and only using those vectors which abide by the rules of the h.264 (MPEG4/AVC) standard.

It would have been obvious to one of ordinary skill in the art at the time of the invention to only use pseudo motion vectors that abide by the rules of the MPEG4/AVC (h.264) standard when deriving motion vectors for macroblocks encoded in SKIP mode to allow efficient use of SKIP mode in the MPEG4/AVC (h.264).

Regarding **claim 8**, ITU-T H.263 series H: Audiovisual and Multimedia Systems discloses the picture information encoding method as set forth in claim 2 (see claim 2 above).

ITU-T H.263 series H: Audiovisual and Multimedia Systems is silent about a block that has a larger spatial distance than the adjacent block that has the unusable motion information is selected as the neighbor block.

Joch from the same or similar field of endeavor discloses a block that has a larger spatial distance than the adjacent block that has the unusable motion information is selected as the neighbor block (ABSTRACT).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use motion vectors of macroblocks other than neighboring macroblocks when predicting motion vectors for more efficient and flexible motion estimation when the motion data of a neighboring block is unusable by a block being currently predicted.

Regarding **claim 10**, ITU-T H.263 series H: Audiovisual and Multimedia Systems discloses a picture information encoding method of performing an encoding process for

picture information using a motion prediction, wherein the encoding process is performed for a block with at least one of moving vector information and coefficient information being omitted and the encoding process has an encoding mode in which the omitted information can be restored at a decoding side according to a predetermined rule, the method comprising the steps of: determining whether the block can be encoded in the encoding mode with alternative information including motion information of predetermined adjacent blocks of the block; and generating pseudo motion information instead of the unusable motion information and providing the pseudo motion information as the alternative information, when the motion information of at least one of the adjacent blocks is unusable (see claim 1 above).

ITU-T H.263 series H: Audiovisual and Multimedia Systems is silent about a program that causes a computer to execute the above mentioned coding method.

Joch from the same or similar field of endeavor discloses a program that causes a computer to execute the above mentioned coding method (FIG. 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to perform the coding method disclosed by ITU-T H.263 series H: Audiovisual and Multimedia Systems by means of a computer program to allow the efficient coding by a computer.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over ITU-T H.263 series H: Audiovisual and Multimedia Systems in view of Schafer (EBU Technical Review).

Regarding **claim 7**, ITU-T H.263 series H: Audiovisual and Multimedia Systems discloses the picture information encoding method as set forth in claim 2 (see claim 2 above)

ITU-T H.263 series H: Audiovisual and Multimedia Systems is silent about the block is encoded according to MPEG4/AVC standard, and wherein when the pseudo motion information does not match the motion information computed according to the MPEG4/AVC standard, at the determination step, the pseudo motion information is alternative moving vector information for a block of 16x16 in a first mode in which the block is encoded with the moving vector information and the coefficient information being omitted and the pseudo motion information is alternative moving vector information for a block of 16x16 or a block of 8x8 in a second mode in which the block is encoded with the moving vector information being omitted.

Schafer from the same or similar field of endeavor discloses the block is encoded according to MPEG4/AVC standard (pg. 2, FIG. 1), and wherein when the pseudo motion information does not match the motion information computed according to the MPEG4/AVC standard, at the determination step, the pseudo motion information is alternative moving vector information for a block of 16x16 in a first mode in which the block is encoded with the moving vector information and the coefficient information being omitted (pg. 5-6; last paragraph) and the pseudo motion information is alternative moving vector information for a block of 16x16 or a block of 8x.8 in a second mode in which the block is encoded with the moving vector information being omitted (pg. 6, paragraph 3; “B slices utilize a similar macroblock partitioning…”).

It would have been obvious to one of ordinary skill in the art at the time of the invention to calculate motion vectors from an alternative 16x16 block in SKIP mode and a 16x16 or 8x8 block in DIRECT mode when there no usable motion data in neighboring macroblocks to allow for efficient coding of macroblocks in SKIP and DIRECT mode.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFERY WILLIAMS whose telephone number is (571)270-7579. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (571)272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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